

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	Tienteh CHEN	§	Confirmation No.:	9905
		§		
Serial No.:	10/613,497	§	Group Art Unit:	1794
		§		
Filed:	07/02/2003	§	Examiner:	B. Shewareged
		§		
For:	Inkjet Recording Materials	§	Docket No.:	200309844-1
	Containing Siloxane	§		
	Copolymer Surfactants	§		

REPLY BRIEF

Mail Stop Appeal Brief – Patents

Date: June 19, 2009

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Examiner's Answer dated April 24, 2009, Appellant submits this Reply Brief for further consideration by the Board. Appellant incorporates by reference his main brief and offers the following select comments in response to certain arguments made by the Examiner in the Answer.

At page 4, paragraph 3, of the Answer, the Examiner states: "*Sismondi* does not teach the use of silicone surfactant as the non-ionic siloxane surfactant." [emphasis added]. Appellant believes that this is an inadvertent misstatement by the Examiner, as *Sismondi* clearly does not teach the use of a siloxane at all. Accordingly, Appellant understands the Examiner's statement to mean that *Sismondi* does not teach the use of siloxane surfactant as the non-ionic surfactant, which is consistent with the Answer at page 3, paragraph 2 and is also consistent with *Sismondi* at col. 3, line 31 through col. 4, line 29.

The MPEP § 2141.02 provides that a prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention, citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). In the present case, the Examiner disregards the specific context in

Miller in which the use of non-ionic siloxane surfactants is disclosed. *Miller* teaches improving handling and sheet feeding characteristics of an image receptor sheet by adding any one of a variety of non-ionic or cationic surfactants, among which are polydimethylsiloxane derivatives (e.g., SILWET L-7605). More particularly, *Miller* teaches that surfactants may be added to aid the coating of receptor layers.¹ The surfactant additive is added to an image receiving layer that contains a specific crosslinked polymer and which may also include swellable polymers, particulates, mordants, fillers and the like.² This particular combination and arrangement of materials is said by *Miller* to provide absorbent, ink receiving layers bearing images of high fidelity and color saturation, and having other desired features.³ Thus, the context in which *Miller* discloses the use of a non-ionic siloxane surfactant is as an optional additive in a certain ink receiving layer which serves to improve handling and sheet feeding and, more specifically, as a coating aid for receptor layers. This specific context of use is an important part of the overall teaching of *Miller* which should be given due consideration.

In the Examiner's Answer, the Examiner states:

At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the silicone surfactant of *Miller* with the invention of Sismondi, and the motivation would be, as *Miller* suggests, improving handling and sheet feeding characteristics [0049].⁴

and also states:

The reference of *Miller* is used to teach the claimed non-ionic siloxane surfactant only, not to teach a crosslinked polymer or a cationic siloxane as indicated by the Applicant above."⁵

¹ pg. 5, para. [0049] of *Miller*.

² pg. 2, para. [0017] of *Miller*.

³ pg. 1, para. [0001] of *Miller*.

⁴ Item 10 at pg. 6 of the Examiner's Answer.

⁵ Item 10 at pg. 7 of the Examiner's Answer.

Thus, the Examiner apparently views the non-ionic siloxane surfactants of *Miller* as merely a known element that can be simply substituted for another in *Sismondi* to obtain predictable results, taking the position that the non-ionic siloxane surfactant of *Miller* can be used to replace the non-ionic surfactant contained in either ink receiving layer of *Sismondi*.⁶ Contrary to the Examiner's position, if one of skill in the art were to have sought guidance from the teachings of *Miller* when endeavoring to improve the handling or sheet feeding characteristics, or to aid the coating of the receptor layers of *Sismondi*'s inkjet receiving sheet, that person would have taken note of the specific way in which the SILWET®L-7605 was employed by *Sismondi*. At best, the skilled person would have been guided by *Miller* to use SILWET®L-7605 as an additive to the existing components of the layers of *Sismondi*'s ink receptive sheet.

Moreover, the skilled person attempting to improve on the invention of *Sismondi* according to the teaching of *Miller*, would have been prompted to modify *Sismondi* in accordance with a mutually expressed purpose in both references. In this case, *Sismondi* expresses the purpose of improving the adhesion between the film support and the ink receiving layer(s) using a subbing or primer layer, which is akin to *Miller*'s stated purpose of aiding the coating of receptor layers. Thus, the combined teachings of those references would have lead the skilled person to a quite different combination of elements than that proposed by the Examiner. Any optimizing of the amount of added SILWET®L-7605 would have been directed toward the above-mentioned improved adhesion or aiding in coating of receptor layers, so the resulting proportion of SILWET®L-7605 and non-siloxane surfactants obtained from such optimization could not have been reasonably predicted to be exactly the same as in claim 1.

The Examiner also fails to give proper consideration to the entirety of the teaching of *Sismondi*, including the specific context in which *Sismondi*'s non-ionic surfactants are used and including the lack of teaching by *Sismondi* of any

⁶ pg. 7, item 10 of the Examiner's Answer.

non-ionic surfactants other than the hydrocarbon and fluorinated surfactants.⁷

The Examiner states:

Sismondi continues to teach that these non-ionic surfactants having specific dynamic surface tension can be selected from hydrocarbon or fluorinated surfactants (col. 3, lines 31-34); however, there is [nothing] that teaches or suggests that these non-ionic surfactants having specific dynamic surface tension must be selected from hydrocarbon or fluorinated surfactants, thus the key invention in Sismondi is not the backbone of the non-ionic surfactant.

To the contrary, there would have been insufficient guidance in *Sismondi* to reasonably apprise one of ordinary skill in the art of any other type of non-ionic surfactants that could be successfully employed. Moreover, if the skilled person were seeking to modify the invention of *Sismondi* by substituting a different type of non-ionic surfactant that would function in the same manner as the non-ionic hydrocarbon and fluorinated surfactants that are disclosed, the skilled person would have had no guidance in *Miller* to try any of the non-ionic surfactants mentioned therein. Notably, the information as to the surface tension of SILWET®L-7605 being in the range of about 25 to about 35 dyne/cm is drawn from Appellant's own Specification. There is no mention whatsoever by *Miller* of any surface tension properties of SILWET®L-7605 or of any other of the non-ionic or cationic surfactants identified in *Miller*.⁸ Therefore, to arrive at the print medium of claim 1 without drawing instruction from the instant disclosure, a person of skill in the art, given the combined teachings of *Sismondi* and *Miller*, would have needed to perform undue experimentation.

In any event, there is no basis in either *Miller* or *Sismondi* upon which the skilled person could have reasonably predicted that a greater total amount of SILWET®L-7605 would be required relative to the amount of nonsiloxane surfactant in a resulting ink receiving layer (as per claim 1). The Specification

⁷ col. 3, lines 32–35 of *Sismondi*.

⁸ pg. 5, para. [0049] of *Miller*.

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emphasizes this required relative proportion of siloxane copolymer and nonionic/anionic [non-siloxane] surfactants.⁹

Respectfully submitted,

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⁹ pg. 6, para. [0015] of the Specification.